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Kreisler 1089-KGB

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

Applicants : Hans-Dieter Volk, et al.  
Serial No. : 09/600,564  
Filed : July 19, 2000  
For : METHOD FOR IDENTIFYING T-CELL STIMULATING  
PROTEIN FRAGMENTS  
Art Unit : To be Assigned  
Examiner : To be Assigned

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August 25, 2000

Hon. Assistant Commissioner  
for Patents  
Washington, D.C. 20231

Sir:

**TRANSMITTAL OF ENGLISH LANGUAGE TRANSLATION  
OF INTERNATIONAL PRELIMINARY EXAMINATION REPORT**

Transmitted herewith for filing in connection with the above-identified application is an English language translation of the International Preliminary Examination Report. The original German language document was previously submitted.

**CONDITIONAL PETITION FOR EXTENSION OF TIME**

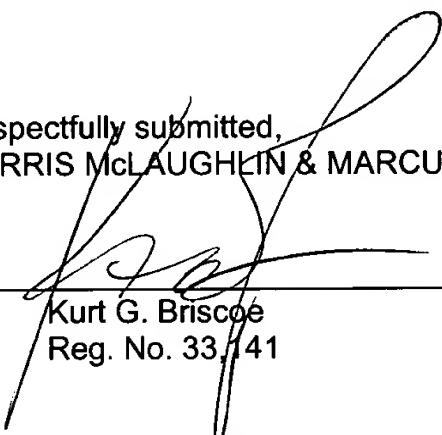
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Respectfully submitted,  
NORRIS McLAUGHLIN & MARCUS, P.A.

By   
Kurt G. Briscoe  
Reg. No. 33,141

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Enc.: International Preliminary Examination Report (English translation)

660 White Plains Road  
Tarrytown, New York 10591-5144  
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NORRIS McLAUGHLIN & MARCUS, P.A.

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Date August 25, 2000



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<h1>TRANSMITTAL FORM</h1> <p>(to be used for all correspondence after initial filing)</p>	Application Number	09/5005564
	Filing Date	07/19/2000
	First Named Inventor	Hans-Dieter Volk et al.
	Group Art Unit	TBA
	Examiner Name	TBA
Including this page Total Number of Pages in This Submission	Attorney Docket Number	Kreisler 1089-KGB

ENCLOSURES (check all that apply)		
<input type="checkbox"/> Fee Transmittal Form <input type="checkbox"/> Fee Attached <input type="checkbox"/> Amendment / Response <input type="checkbox"/> After Final <input type="checkbox"/> Affidavits/declaration(s) <input type="checkbox"/> Extension of Time Request <input type="checkbox"/> Express Abandonment Request <input type="checkbox"/> Information Disclosure Statement <input type="checkbox"/> Certified Copy of Priority Document(s) <input type="checkbox"/> Response to Missing Parts/Incomplete Application <input type="checkbox"/> Response to Missing Parts under 37 CFR 1.52 or 1.53	<input type="checkbox"/> Assignment Papers (for an Application) <input type="checkbox"/> Drawing(s) <input type="checkbox"/> Licensing-related Papers <input type="checkbox"/> Petition Routing Slip (PTO/SB/69) and Accompanying Petition <input type="checkbox"/> To Convert a Provisional Application <input type="checkbox"/> Power of Attorney, Revocation Change of Correspondence Address <input type="checkbox"/> Terminal Disclaimer <input type="checkbox"/> Small Entity Statement <input type="checkbox"/> Request for Refund	<input type="checkbox"/> After Allowance Communication to Group <input type="checkbox"/> Appeal Communication to Board of Appeals and Interferences <input type="checkbox"/> Appeal Communication to Group (Appeal Notice, Brief, Reply Brief) <input type="checkbox"/> Proprietary Information <input type="checkbox"/> Status Letter <input checked="" type="checkbox"/> Additional Enclosure(s) (please identify below): 1. Transmittal of English Language Translation of International Prelim Ex. 2. Translation of Int'l Preliminary Exam Report
Remarks:		
SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT		
Firm or Individual name	NORRIS MCLAUGHLIN & MARCUS, P.A.	
Signature	Kurt G. Briscoe, Esq. Reg. No. 33,141	
Date	8/25/00	

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Translation

PATENT COOPERATION TREATY

PCT

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference TZPF-Int	FOR FURTHER ACTION See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416)	
International application No. PCT/DE99/00175	International filing date (day/month/year) 15 January 1999 (15.01.99)	Priority date (day/month/year) 19 January 1998 (19.01.98)
International Patent Classification (IPC) or national classification and IPC C12Q1/00		
Applicant KERN, Florian		

1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.

2. This REPORT consists of a total of 5 sheets, including this cover sheet.

☒ This report is also accompanied by ANNEXES, i.e., sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).

These annexes consist of a total of 5 sheets.

3. This report contains indications relating to the following items:

- I ☒ Basis of the report
- II ☐ Priority
- III ☐ Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- IV ☐ Lack of unity of invention
- V ☒ Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- VI ☐ Certain documents cited
- VII ☒ Certain defects in the international application
- VIII ☐ Certain observations on the international application

Date of submission of the demand 06 August 1999 (06.08.99)	Date of completion of this report 05 May 2000 (05.05.2000)
Name and mailing address of the IPEA/EP	Authorized officer
Facsimile No.	Telephone No.

# INTERNATIONAL PRELIMINARY EXAMINATION REPORT

international application No.

PCT/DE99/00175

## I. Basis of the report

1. This report has been drawn on the basis of (Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to the report since they do not contain amendments.):

- ☐ the international application as originally filed.
- ☒ the description, pages 1-14, as originally filed,  
 pages \_\_\_\_\_, filed with the demand,  
 pages \_\_\_\_\_, filed with the letter of \_\_\_\_\_,  
 pages \_\_\_\_\_, filed with the letter of \_\_\_\_\_.
- ☒ the claims, Nos. \_\_\_\_\_, as originally filed,  
 Nos. \_\_\_\_\_, as amended under Article 19,  
 Nos. \_\_\_\_\_, filed with the demand,  
 Nos. 1-13, filed with the letter of 17 April 2000 (17.04.2000),  
 Nos. \_\_\_\_\_, filed with the letter of \_\_\_\_\_.
- ☒ the drawings, sheets/fig 1/2,2/2, as originally filed,  
 sheets/fig \_\_\_\_\_, filed with the demand,  
 sheets/fig \_\_\_\_\_, filed with the letter of \_\_\_\_\_,  
 sheets/fig \_\_\_\_\_, filed with the letter of \_\_\_\_\_.

2. The amendments have resulted in the cancellation of:

- ☐ the description, pages \_\_\_\_\_
- ☐ the claims, Nos. \_\_\_\_\_
- ☐ the drawings, sheets/fig \_\_\_\_\_

3. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).

4. Additional observations, if necessary:

**See separate sheet.**

## I. Basis of the report

1. This report has been drawn on the basis of *(Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to the report since they do not contain amendments.)*:

The sequence listings filed on June 19, 1999 do not form part of the international application (PCT Rule 13 ter. 1(f)).

V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Claims	1-8	YES
	Claims	9-13	NO
Inventive step (IS)	Claims	1-8	YES
	Claims	9-13	NO
Industrial applicability (IA)	Claims	1-13	YES
	Claims		NO

2. Citations and explanations

Reference is made to the following documents:

D1: JOURNAL OF IMMUNOLOGY, Vol. 159, No. 2, July 15, 1997, pages 1012-1018,

D2: WO 87 04723,

D3: J. Immunology (1998) **161** 5284-5295.

Since the priority of the present application is valid, document D3, which is cited by the applicants and was published after the priority date (19.01.1998) of the present application (Nov. 1998), is not considered to be of relevance for the assessment of novelty, inventive step and industrial applicability.

D1 describes the induction of CD30 and cytokines as a result of the HCV core protein or fragments thereof (page 1013, column 1, paragraphs 8-9) acting on peripheral mononuclear cells of hepatitis patients (abstract; page 1013, column 1, paragraph 8 to column 2, paragraph 2; page 1014, column 1, paragraph 2-s, page 1015, column 2). The peptides are incubated with the cells for 40 hours (page 1013, column 2, paragraph 2). The T-cell cytokines such as, for example, IL-2 and IFN- $\gamma$  (page 1014, column 1,

paragraph 3. to column 2, paragraph 3; Figure 2). undergo flow cytometry and are therefore identified on an individual cell plane (D1: page 1013, column 2, paragraphs 3-4; page 1014, column 1, paragraph 2 to column 2, paragraph 3). The T-cell stimulation of both the protein fragments used, which are 25 amino acids long, and the control peptides is evaluated, i.e. protein fragments are allocated to T-cell stimulation (D1: Figures 2 and 3; page 1016, column 2 to page 1017, column 1, paragraph 4).

1. Novelty (PCT Article 33(2)):

1.1. **Claims 9 to 11** are not novel. Solid-phase synthesis is customary to a person skilled in the art as are liquid-phase methods (see application: page 9, lines 4-10) and recombinant preparation in a host (for example D2). According to the process in Claims 1 to 9, any possible protein/peptide (for example D1: page 1013, column 1, paragraph 9) can be identified. Consequently, the synthesis of such a protein/peptide is also not novel (see also D1: page 1013, column 1, paragraph 9). **Claims 12 and 13** are not novel for the same reason, since the use of proteins to prepare a medicine of a respective vaccine is generally known.

1.2. **Claim 1** is novel since none of the available documents discloses a process for identifying T-cell stimulating protein fragments involving stimulation using peptides or protein fragments for a short incubation time, which does not permit selection and proliferation of the T-cells. Consequently, dependent **Claims 2 to 8** are also novel.



2. Inventive step (PCT Article 33(3)):

**Claim 1** appears to be inventive for the following reasons:

D1 is considered to be the closest prior art and differs from the subject matter of Claim 1 by the duration of the stimulation. Whilst in D1 the cells are incubated for 40 hours with an antigen mixture, the stimulation duration as per Claim 1 is so short that the T-cells are not selected and proliferated, which is equivalent to a stimulation duration of less than 24 hours.

Consequently, the problem that is solved in Claim 1 can be seen as that of providing a simple process that can be carried out more quickly.

The available relevant prior art does not suggest measuring the T-cell cytokines and/or an activation marker after such short stimulation. Dependent **Claims 2-8** also appear to be inventive for the same reason.

## VII. Certain defects in the international application

The following defects in the form or contents of the international application have been noted:

Contrary to the requirements of PCT Rule 5.1(a)(ii)  
neither the relevant prior art disclosed in document D1  
nor that document have been indicated in the description.